

Cell



Plate and frame configuration



LED technology



Adjustable radiation intensity

The equipment

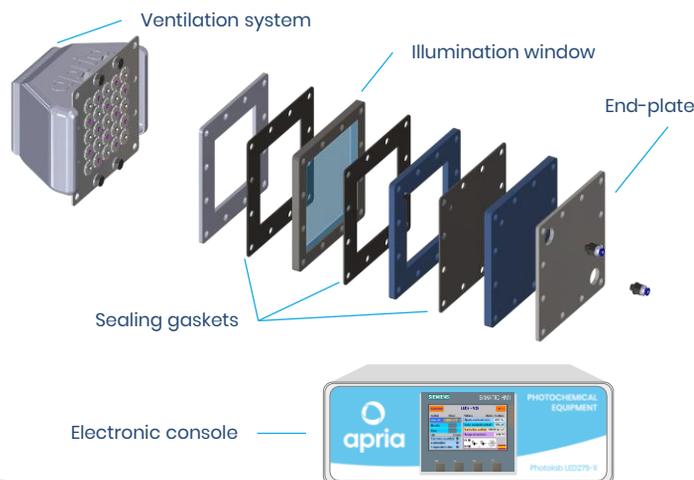
Apria Systems has designed a series of flexible cell photoreactors with **LED technology**. We offer a wide range of **tailor-made** models to adapt the equipment to the needs of our clients.

Each photoreactor has an external plate with LEDs. **Exchangeable illumination plates** are available, allowing to use different lights. The **radiation intensity can be regulated**, offering an adjustment to the needs of the treatment.

The **temperature of the LEDs is monitored** and controlled through a system of forced air convection, allowing to maximize their efficiency and lifetime.



Elements of the system



Operation

1. Pump the fluid to be treated to the photoreactor
2. Turn-on the electronic console
3. Select the working type of light, adjust its radiation intensity, and switch-on the lamp
4. Perform the photochemical treatment

We offer a wide range of alternatives to adjust our equipment to your needs

Reactor characteristics

Operation mode	Continuous / recirculation
Configuration	One plate / exchangeable plates – up to two wavelengths per plate –
Treatment volume (mL)	250 – 10,000
Flowrate (m³/h)	Up to 1
Irradiated area (cm²)	1 – 100
Number of LEDs	1 – 25
Adjustable radiation intensity	Yes, through an electronic console with PLC
Refrigeration system for the LEDs	Forced air convection
Optional items	Automatization / feeding tank / online measurements (O ₂ , pH, etc.) / pumping / system to recover the photocatalyst / temperature control

Source of light

Type of light	λ (nm)	λ_{peak} (nm)	Φ / LED
UV-C	263 – 268	265	100 mW
	268 – 280	275	
UV-B	295 – 305	300	32 mW
UV-A	365 – 370	365	1,200 mW
Violet	400 – 410	405	1,260 mW
White	400 – 700	450	315 lm
Blue	453 – 460	457	1,350 mW
Green	520 – 530	523	450 mW
Yellow	587 – 598	590	470 lm
Red	618 – 630	623	935 mW
NIR	835 – 875	850	930 mW
FIR	920 – 960	940	1,350 mW

